1879MNRAS..40...86N

Cape and Greenwich Catalogues for 1860, published in the *Monthly Notices* for 1878, December, in order to ascertain whether any similar effect of the season of the year on the refraction can be detected in the Greenwich observations. For this purpose I have arranged in order of R.A. the stars used in the comparison which are situated between N.P.D. 110° and the horizon of Greenwich, as it is reasonable to suppose that for these stars (which pass the meridian of the Cape within 15° of the zenith) any effect that can be traced to refraction is due to the Greenwich, rather than to the Cape observations.

The quantity $-0''\cdot18$ has been applied to the Greenwich places of all the stars used, this being the systematic difference of the Catalogues between the limits of N.P.D. under consideration.

The result then is:—

Right Ascension	h h 0—6	h h 6—12	h h 12—18	h h 18—24
Corr. to Greenwich	″ −0·10	″ −0·04	″ +0·26	″ −0·11

The only one of these mean differences worth attention is probably that for 12^h–18^h, and it appears to show that (if the discordance may be considered as due to refraction), from error in temperature correction, or other causes, the refractions used in the reduction of the Greenwich observations are relatively too small during the months of May, June, and July. It will be remarked that the discordance at the opposite season, included within the limits of R.A. 0^h–6^h, is so small that it may probably be considered as merely accidental.

Note on two Sketches of Jupiter.

By Captain William Noble.

The sketches of *Jupiter* which I herewith present to the Society, were made on the nights of October 4 and October 18 of the present year, and to a great extent explain themselves. They show the very remarkable red spot which has attracted the attention of every observer during the present opposition, and the great dark equatoreal belt to the north of it. They further exhibit the curious assimilation of the contour of the surroundings of the red spot to the outline of the spot itself; an assimilation which would seem to indicate that the convulsion to which this most noteworthy marking can only be referable must be of the most stupendous kind.

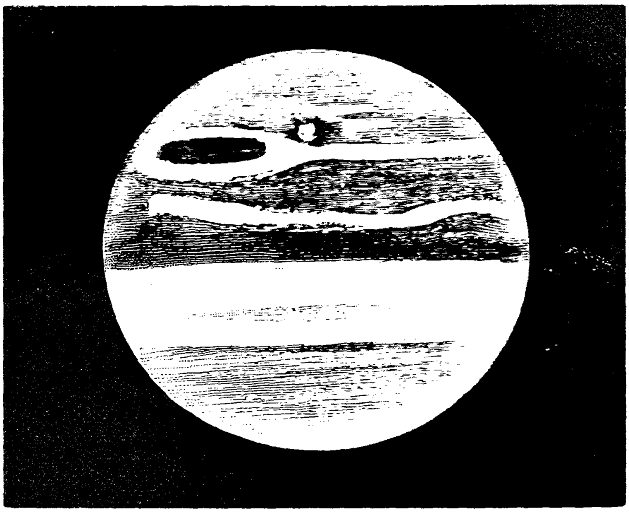
One point, however, to which I would particularly invite attention is in connection with the white spot which was visible S.F. the red marking on October 4. In a paper read before the Society by Mr. Brett, in June 1876, he directed our notice to the fact that a bright spot sometimes casts a shadow. Now on the night

Downloaded from http://mnras.oxfordjournals.org/ at UNIVERSITY OF ARIZONA on July 8, 2015

© Royal Astronomical Society • Provided by the NASA Astrophysics Data System

1879MNRAS..40...87L

on which my sketch was made the spot of which I am speaking not only cast *a* shadow (assuming these markings to be such), but *shadows*, as two (as shown in my drawing) were visible, one on its preceding and the other on its following edge. I confess that no immediate explanation of this occurs to me. In the relative position occupied by *Jupiter* and the Sun at the epoch of my drawing, if we assume the white spot to have consisted of a globular mass of vapour raised high above the surrounding surface of the planet, it is quite evident that it would cast a well-marked shadow behind it. Upon what principle, however, it should simultaneously throw another one in front of it I am wholly at a loss to determine. It may be worthy of remark that the light interval separating the northern and southern equatoreal belts, which at the epochs of my sketches merely appeared as a sinuous but unbroken line on that part of *Jupiter's* disk more immediately north of the red spot, on the opposite side of the planet presented a much more complicated form. It altered in this respect between September and October.



Jupiter, 1879, Oct. 4. 10^h 40^m G.M.T.

4·2-inch Ross Achromatic ; 61 inches focus ; power, 255.

Forest Lodge, Maresfield,
Uckfield, Sussex,
1879, *November* 12.

Note on the Spectrum of the Red Spot on Jupiter.

By Lord Lindsay.

Spectrum of *Jupiter* in Grubb spectroscope on 15-inch. Lowest power best. Probably 100 solar lines seen. The 3 magnesium lines beautifully separated. Slit at right angles to belts. The red equatoreal belt seen as a dark band running through the

Downloaded from http://mnras.oxfordjournals.org/ at UNIVERSITY OF ARIZONA on July 8, 2015

© Royal Astronomical Society • Provided by the NASA Astrophysics Data System